

This listing of claims will replace all prior versions of claims in the application.

Claim 1. (previously presented) A coated substrate comprising:

- a) an organic underlayer composition coating layer on a substrate, the underlayer composition comprising a component that comprises aromatic and/or alicyclic groups and a component that comprises one or more chromophore groups;
- b) over the underlayer composition coating layer, a photoresist composition coating layer for imaging at less than 200 nm, the photoresist comprising a photoactive component and an Si-containing component.

Claim 2. (previously presented) The coated substrate of claim 1 wherein the underlayer composition comprises an integral component that comprises both i) aromatic and/or alicyclic groups and ii) chromophore groups.

Claim 3. (previously presented) The coated substrate of claim 1 wherein the underlayer composition comprises a first component that comprises aromatic and/or alicyclic groups and a second component distinct from the first component that comprises chromophore groups.

Claim 4. (currently amended) The coated substrate of claim 1 any one of claims 1 through 3 wherein the chromophore groups comprise anthracene groups.

Claim 5. (currently amended) The coated substrate of claim 1 any one of claims 1 through 4 wherein the underlayer composition component that comprises aromatic and/or alicyclic groups comprises optionally substituted phenyl groups, optionally substituted naphthyl groups, optionally substituted adamantyl groups, optionally substituted norbornyl groups, or optionally substituted isobornyl groups.

Claim 6. (currently amended) The coated substrate of claim 1 any one of claims 1 through 5 wherein the underlayer composition comprises a mixture of at least two distinct resins.

Claim 7. (previously presented) The coated substrate of claim 6 wherein one resin of the underlayer composition comprises aromatic and/or alicyclic groups and a second resin of the underlayer composition comprises one or more chromophore groups.

Claims 8-21. (cancelled)

Claim 22. (previously presented) A method for forming a photoresist relief image comprising:

a) applying an organic underlayer composition coating layer on a substrate, the underlayer composition comprising a component that comprises aromatic and/or alicyclic groups and a component that comprises one or more chromophore groups;

b) applying a photoresist composition coating layer over the underlayer composition, the photoresist composition comprising a photoactive component and an Si-containing component;

c) exposing the photoresist composition coating layer to radiation having a wavelength of less than about 200 nm.

Claim 23. (previously presented) The method of claim 22 wherein the photoresist layer is exposed to radiation having a wavelength of less than 170 nm.

Claim 24. (previously presented) The method of claim 22 wherein the photoresist layer is exposed to radiation having a wavelength of about 193 nm.

Claim 25. (previously presented) The method of claim 22 wherein the photoresist layer is exposed to radiation having a wavelength of about 157 nm.

Claims 26-51. (cancelled)

Claim 52. (previously presented) An article of manufacture comprising a substrate having coated thereon a multilayer photoresist system,

the system comprising:

a) an organic underlayer composition coating layer on a substrate, the underlayer composition comprising a component that comprises aromatic and/or alicyclic groups and a component that comprises one or more chromophore groups;

b) over the underlayer composition coating layer, a photoresist composition coating layer for short wavelength imaging, the photoresist comprising a photoactive component and an Si-containing component.

Claim 53. (previously presented) The article of claim 52 wherein the substrate is a microelectronic wafer substrate, an optoelectronic device substrate or a waveguide.

Claim 54. (previously presented) An underlayer composition for use with an overcoated silicon-containing photoresist imaged at under 200 nm, the underlayer composition comprising:

a first resin that comprises phenolic groups, and a second resin that comprises anthracene groups.

Claims 55-60.